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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,039	07/12/2001	Gary A. Demos	07314-013001	2223
20985	7590	04/08/2005	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			LEE, Y YOUNG	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/905,039

**Applicant(s)**

DEMOS, GARY A.

**Examiner**

Y. Lee

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-87 is/are pending in the application.  
4a) Of the above claim(s) 1-7, 16-36, 45-65 and 74-87 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 8-15, 37-44 and 66-73 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/28/05 has been entered.

### ***Election/Restrictions***

2. Applicant's election without traverse of Figure 2, claims 8-15, 37-44, and 66-73 in the reply filed on 6/25/03 is acknowledged.
3. Claims 1-7, 16-36, 45-65, and 74-87 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected embodiment, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6/25/03.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 8-15, 37-44, and 66-73 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Naimpally et al (5,294,974).

Naimpally et al, in Figures 2 and 5, discloses a high-definition video encoding system having color-sensitive quantization using the same method for reducing chroma noise as specified in claims 8-15, 37-44, and 66-73 of the present invention, comprising in a YUV video image compression system using macroblocks and quantization parameters during compression, including utilizing a variable quantization step size and a quantization parameter (QP) to represent a size of a step where an increase in the QP corresponds to a larger quantization step size, selecting one of reducing chroma noise during compression of a color video image 110 and achieving higher compression during compression of the color video image (e.g. B-Y, R-Y); in response to selecting reducing chroma noise, utilizing a first QP value for the Y luminance channel of a color video image for a first macroblock (e.g. Fig. 3), and utilizing a second QP value for at least one of the U and V color channels of the color video image for the first macroblock; and in response to selecting achieving higher compression utilizing a first QP value for the Y luminance channel of a color video image 110, and utilizing a second QP value 212 for at least one of the U and V color channels of the color video image 110, wherein the second QP value 212 for the first macroblock is less than the first QP value, so that at least one of the U and V color channels has finer quantization resolution than the Y luminance channel for the first macroblock (e.g. Tables 1-3).

With respect to claims 9, 10, 13, 14, 38, 39, 42, 43, 67, 68, 71, and 72, Naimpally et al also discloses that the second QP value 212 is determined by applying a bias value to the first QP value (Fig. 6); compressing the color video image (Fig. 2), after application of the first and second QP values, to a compressed output image 116; and

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decompressing the compressed output image 116 using the first and second QP values to obtain an uncompressed video image 126.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 66-73 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagihara (5,374,958) in view of Reininger et al (5,426,463) for the same reasons as set forth in Section 5 of the previous office action, dated 4/5/04.

Yanagihara, in Figures 1, 11, 13, and 14, discloses substantially the same method for reducing chroma noise as specified in claims 66-73 of the present invention, comprising in a YUV video image compression system using macroblocks and quantization parameters during compression, utilizing a variable quantization step size  $q$  and a quantization parameter QP to represent a size of a step where an increase in QP corresponds to a larger quantization step size, selecting one of reducing chroma noise during compression of a color video image (e.g. still block) and achieving higher compression during compression of the color video image (e.g. motion block); in response to selecting reducing chroma noise, utilizing a first QP value for the Y luminance channel of a color video image (e.g.  $4 \cdot SQ$ ), and utilizing a second QP value for at least one of the U and V color channels of the color video image (e.g.  $8 \cdot SQ$ ); and in response to selecting achieving higher compression utilizing a first QP value for the Y

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luminance channel of a color video image (e.g.  $4 \times \text{SQ}$ ), and utilizing a second QP value for at least one of the U and V color channels of the color video image (e.g. 8), wherein for at least a plurality of macroblocks, the second QP value 8 is greater than the first QP value (e.g.  $4 \times \text{SQ}$ ), so that at least one of the U and V color channels has coarser quantization resolution than the Y luminance channel.

With respect to claims 9, 10, 13, 14, 38, 39, 42, 43, 67, 68, 71, and 72, Yanagihara also discloses that the second QP value (e.g.  $8 \times \text{SQ}$ ) is determined by applying a bias value 2 to the first QP value (e.g.  $4 \times \text{SQ}$ ); and compressing the color video image (Fig. 11), after application of the first and second QP values, to a compressed output image 13.

It is noted Yanagihara differs from the present invention in that it fails to particularly disclose quantizing the color channels with greater resolution than the luminance channel and any decompression details as specified in claims 8-15, 37-44, and 66-73. Reininger et al however, in Figures 2 and 3, teaches the concept of such well known variable second QP value 14 is less than the first QP value (i.e. variably controlled), so that at least one of the color channels C has greater quantization resolution than the luminance channel Y; and decompressing the compressed output image (16, 17) using the first and second QP values to obtain an uncompressed video image.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having both the references of Yanagihara and Reininger et al before him/her, to exploit the common variable bit rate quantizing method as taught

by Reininger et al in the YUV video image compression system of Yanagihara in order to adaptively quantize the luminance and color channels to efficiently achieve bandwidth reduction.

### ***Response to Arguments***

8. Applicant's arguments filed 3/28/05 have been fully considered but they are not persuasive. In response to applicant's argument on pages 28-31 of the Remarks that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., in the same macroblock) are not recited in the rejected claim(s). Although claims 66-73 are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).


9. Applicant's arguments with respect to claims 8-15, 37-44, and 66-73 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lee whose telephone number is (571) 272-7334. The examiner can normally be reached on (571) 272-7334.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Y. Lee  
Primary Examiner  
Art Unit 2613

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